

APPENDICITIS IN CHILDREN: THE NEED FOR CAREFUL ASSESSMENT

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ABSTRACT

Childhood appendicitis is a common cause of acute abdomen in children, accounting for about 15% of hospital admissions worldwide. The aetiology of this illness is still uncertain but there is clearly a relationship to the Western way of life which perhaps is dietetic. Diagnosis of acute appendicitis in children especially the younger age group may be difficult as at this age the power of expression is still low. Ancilliary imaging and optical instruments are therefore necessary in poorly defined cases and in combination with clinical assessment confirms or otherwise the diagnosis of acute appendicitis in a child. The incidence of negative appendectomy is higher in the younger age group as appendicitis is rare in them and diagnosis can be difficult. However, the need for careful clinical assessment is necessary so as to avoid unwarranted negative appendectomies. Developing countries in most instances cannot afford these equipment and infrastructures which may help in difficult instances in the diagnosis of acute appendicitis in children.

KEYWORDS: Appendicitis, Children, Careful, Assessment.

INTRODUCTION

Appendicitis constitute one of the common cause of acute abdominal emergency (Adekunle & Fumilayo, 1986). In children especially the younger age group with poor ability of self expression it is still a serious problem and depends on good clinical acumen and experience (Ajao, et al. 1979, Ajao, et al. 1981). Diagnosis may be wrong or initially overlooked (Archibong, et al. 1994, Blinnikov, 1998). Wrong diagnosis leads to unjustified surgical intervention with rates ranging from 22-28% (Editorial, 1987). The second error leads to post admission delays of more than six hours in 20 - 28% of patients (Efem, 1998, Hoffman, 1989). Obviously these tendencies determine the outcome of the patients' condition.

DIAGNOSTIC MODALITIES

Diagnosis of acute appendicitis is basically clinical. However, in the younger age group with poor ability of expression and comprehension of simple instructions diagnosis may be difficult. Classically para umbilical pain initiates the symptoms and with the passage of time shift to the right

iliac fossa. The poor developmental anatomy of the lymphoid organ in a child may however affect this trend in some children. This with vomiting and fever constitute the Murphy's classical triad. Intermittent colicky abdominal pain and diarrhea may also be present, thus presenting a picture commonly seen in other childhood abdominal emergencies.

Some authors (Robbin, 1984 & Jacob, et al., 1975) in their series have observed the upward trend in the frequency of the disease in the tropics. This has been attributed to urbanization and adoption of a western lifestyle. African diets traditionally are rich in fibres but these have now been abandoned for refined western diets. This trend is apparent in children above five years who are easily exposed to societal influences. In his series Adekunle O. O. et al (Jacob, et al. 1975) discovered that appendicitis was common above the seven year old group with a peak in the 13 to 15 years age bracket. It may also be that environmental and other factors like improved health education and easier access to medical facilities are contributory to better diagnosis. In another series

(Archibong, et al. 1994, Blinnikov, 1998, Editorial, 1987) appendicitis was rare below the age of 3 years. It can easily be imagined that it is, this group of patients that are likely to have the highest incidences of missed diagnosis which ultimately lead to series of negative appendectomies.

The sex incidence between boys and girls in appendicitis is not conclusively documented (Jacob, et al. 1975). With the onset of puberty at the age of 10 – 15 years and the anatomical peculiarities of the female pelvis, it probably sound reasonable to assume that girls may have higher incidence of appendicitis than boys.

Treatment Modalities

The treatment for acute appendicitis is surgical removal of the inflamed appendix – appendectomy. However, the report (Lee, 1975) which suggest an increased risk of colonic, breast and ovarians cancers and lymphomas in appendectomised individuals emphasizes the need to refrain from appendectomy in cases with no inflammation. Also the appendix organ is commonly used in transplantational surgery whenever there is need to replace tubular organ like the ureters. Recent advances in medical technology such as ultrasonography and laparoscopic surgery have completely revolutionalised the concept of management of appendicitis in children. Blinikov 1998, Maxwell and Regland, 1991 in their series demonstrated that in the younger age group where confirmation of diagnosis is difficult, laparoscopy may be able to establish a diagnosis or exclude same in 95% of cases. This therefore means that where necessary laparascopy should be applied to confirm diagnosis. Ultrasonography (Ooms, 1991) has also been illustrated of being of immense value. The non-invasive nature of the investigation and the ease of practice makes it a necessary tool in the diagnosis of appendicitis in children, in cases where clinical assessment alone cannot establish a diagnosis.

In the tropics, parasites especially *Ascaris lumbricoides* is incriminated in the aetiology of appendicitis (Neilson, et. al., 1990). In endemic regions this is possible

but with widespread deworming campaigns by various governmental and non-governmental agencies, the worm load in children have greatly diminished (Ooms, et. al., 1991). However, agitated adult worms are capable of entering the appendix to cause perforation, secondary bacterial infections and peritonitis (Stepanov, et. al., 1983).

A number of authors (Surana, 1993 & Walker, et. al. 1993, William and Kapila, 1991, Yudin, et. al. 1990) claim that the time lapse from onset of illness to surgical intervention does not necessarily determine the outcome of the illness, the basic yardstick being to establish the diagnosis or otherwise of appendicitis and therefore the treatment option. Preoperative administration of broad spectrum antibiotics and antimicrobials are recommended to afford time for confirmation of diagnosis and these perhaps coupled with active preoperative resuscitative measures greatly improve the surgical outcome.

CONCLUSION

Modern concept in the management of acute abdominal condition especially in children who cannot talk or express themselves dictates that imaging and optical instruments be optimally used, whenever the diagnosis is difficult to establish. Laparoscopy which affords direct visualization of the abdominal cavity tends to be in the forefront in the differential diagnosis of intra abdominal catastrophe (Blinnikov, 1998). Ultrasonography, a non invasive procedure is also invaluable in the diagnosis of acute abdominal conditions. However, the high cost of these equipment, the infrastructure needed to support these procedures and the technical skills required make access to them somewhat limited in many developing countries. The absence or otherwise of these facilities however does not justify unwarranted instances of negative appendectomy. Diagnosis of appendicitis is basically clinical and instrumentations therefore cannot be substituted for good clinical judgment. Appendectomy should never therefore be considered as a treatment option when the appendix is not inflamed.

Table 1: Signs/symptoms frequently seen in appendicitis in children (in decreasing frequency)

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- (1) Pain +
 (2) Vomiting +
 (3) Fever +
 (4) Diarrhoea
 (5) Abdominal colic
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+ Murphy's classical triad

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